

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Previously Presented) An electrically isolated power transfer MEMS device for delivering electric power to a load, the device comprising:

a source generator including a movable member, wherein the source generator converts an electrical input signal to a displacement of the movable member;

a power transfer structure defining an input end in communication with the movable member that receives the displacement, and an output end opposite the input end that communicates the displacement, wherein at least a portion of the power transfer structure between the input and output ends is insulating;

an electrical generator disposed at a second end of the device receiving the displacement from the output end of the power transfer structure and, in response to the displacement, generates electrical power that is delivered to the load;

wherein the electrical generator comprises an electrical loop having movable conductive arm in mechanical communication with the beam, wherein movement of the beam deflects the arm in the presence of a magnetic field to generate power for the load.

2. (Original) The device as recited in claim 1, wherein the insulated power transfer structure further comprises an elongated beam disposed between the source generator and the electrical generator.

3. (Original) The device as recited in claim 2, wherein the beam moves in response to the output of the source generator.

4. (Cancelled)

5. (Currently Amended) The device as recited in ~~claim 4~~ claim 1, wherein the electrical generator comprises a plurality of the movable arms connected in series.

6. (Currently Amended) The device as recited in ~~claim 4~~ claim 1, wherein the electrical generator comprises a plurality of the movable arms connected in parallel.

7-9. (Cancelled)

10. (Original) The device as recited in claim 1, wherein the source generator comprises a Lorentz actuator including a movable arm in mechanical communication with the beam, wherein electrical current is supplied to the arm in the presence of a magnetic field to generate a force that displaces the movable member.

11. (Original) The device as recited in claim 10, wherein the Lorentz actuator receives the electrical power from a source that is selected from the group consisting of an ac source and a dc source.

12. (Original) The device as recited in claim 11, wherein the source is provided by the dc power source, wherein the generator further comprises a switch in electrical communication with the source to deliver pulses of electricity to the movable arm.

13. (Currently Amended) The device as recited in claim 1, wherein the source generator comprises an electrostatic generator having a set of capacitor plates including at least one movable plate that is in mechanical communication with the power transfer structure.

14. (Original) The device as recited in claim 13, wherein the capacitor plates receive electrical power from a source that is selected from the group consisting of: an ac source and a dc source.

15. (Original) The device as recited in claim 14, wherein the electrostatic generator draws power from the dc power source, and wherein the electrostatic generator further comprises a

switch in electrical communication with the source to deliver pulses of electricity to the capacitor plates.

16. (Original) The device as recited in claim 13, wherein the electrostatic generator receives a voltage input from a piezoelectric actuator.

17. (Original) The device as recited in claim 13, wherein the electrostatic actuator receives a voltage input from a thermocouple.

18. (Currently Amended) The device as recited in claim 1, wherein the power transfer structure includes a lever having a first end pivotally attached to a substrate, and a second end opposite the first end, wherein the input end is disposed proximal the first end, and wherein the output end is disposed proximal the second end.

19. (Original) The device as recited in claim 1, further comprising a plurality of source generators connected to a common electrical input.

20. (Original) The device as recited in claim 1, wherein the power transfer structure oscillates during operation, further comprising compensation elements to maintain the oscillation of the power transfer structure at a resonant frequency.

21. (Currently Amended) The device as recited in claim 1, wherein the source generator further comprises a bi-morph.

22.- 57. (Cancelled)